

GOPALKRISHNAN, et al
Serial No. 09/930,479
February 10, 2004

REMARKS

Entry of the amendment instructions presented herewith and favorable reconsideration and allowance of this application are requested.

By way of the amendment instructions above, the specification has been revised so as to present the correct spelling of SOKALAN® polymers. As such, it is believed that the specification objection advanced by the Examiner has been mooted.

In addition, the objected-to terminology "between about" has been changed to the terminology helpfully suggested by the Examiner. As such, the rejection advanced under 35 USC §112, second paragraph has been mooted.

Independent claims 1 and 12 have been amended so as to further emphasize the patentable features of the present invention. Amendments made to such claims are based on the disclosure appearing in the originally filed specification at page 9, line 22 through page 11, line 4. Specifically, each of the claims now recite the following with respect to the polyether block copolymer: (1) the polyether copolymer's molecular weight range, (2) a molecular weight range of the PO block units, (3) the weight percentage of EO blocks in the copolymer, and (4) that the copolymer is one initiated with reactive glycol or diamine.

Applicants have discovered that, when EO/PO block polyethers having the properties (1)-(4) noted immediately above are employed as air detraining agent in combination with superplasticizers, stable (i.e., clear) aqueous solutions thereof are capable of being formed.

The sole issue remaining to be resolved in this application is the Examiner's rejection of claims 1-18 under 35 USC §102(e) based on Ou et al or Bury et al, with Evain et al being used as a so-called teaching reference. Applicants suggest that the

GOPALKRISHNAN, et al
Serial No. 09/930,479
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present amendment renders moot the Examiner's rejection advanced under 35 USC §102(e).

Applicants again note that the present invention is patentable in that a *particular* type of EO/PO block polyether may be usefully employed as an air detraining agent in combination with a superplasticizer so as to result in stable aqueous solutions thereof. The herein claimed superplasticizer solutions as claimed herein therefore are capable of lowering the air content of cement slurries while being stable, i.e., the solution is not cloudy or hazy which is indicative of incompatibility of the air-detraining additive with the aqueous polymeric superplasticizer solution.

Neither the PLURONIC® L31 nor the PLURONIC® L81 EO/PO polyethers are within the scope of the applicants' claimed invention. In this regard, below is a tabular presentation which compares the claim language of claims 1 and 12 pending in the subject application with the comparable physical properties of PLURONIC® L31 and PLURONIC® L81 EO/PO polyethers.

	<u>Claim 1</u>	<u>Claim 12</u>	<u>PLURONIC® L31</u>	<u>PLURONIC® L81</u>
Surfactant MW =	1000-2500	700-2500	1055	2500
MW of PO Block =	500-1800	600-1200	896	2184
Wt.% of EO Block =	30-70 %	30-70%	10%	10%
Initiator =	glycol or diamine	glycol or diamine	glycol	glycol

As further evidence of the weight percentages of the EO block units being 10% for both the PLURONIC® L31 and PLURONIC® L81 EO/PO polyethers, the Examiner's attention is directed to the PLURONIC® surfactant grid at the following web site:
http://www.bASF.com/static/OpenMarket/Xcelerate/Preview_cid-982931199931_pubid-

GOPALKRISHNAN, et al
Serial No. 09/930,479
February 10, 2004

974236729499_c-Article.html A hard copy of such grid is also attached for the Examiner's convenience. Further information pertaining to the percentage of EO and PO in PLURONIC® surfactants is described in the book titled "Block & Graft Copolymerization" Chapter 1 The Synthesis and Properties of Block Copolymer Polyol Surfactants by R.J. Ceresa, Wiley-Interscience Publication (1976).

It will immediately be noted that neither the PLURONIC® L31 polyether nor the PLURONIC® L81 polyether have an EO content of between 30-70 wt.% as required in the claims of the present application. Moreover, the PLURONIC® L81 polyether has a MW of the PO block units which is far in excess of that claimed herein.

The data in the originally filed specification show that a large number of potential air detraining agents do not achieve a stable (i.e., crystal clear) solution when added to a superplasticizer and/or do not achieve adequate lowering of entrained air. Particularly instructive of this selectivity is the fact that TETRONIC® 701 did *not* result in a stable solution whereas TETRONIC® 304 did, even though both surfactants are initiated with ethylene diamine, but the former has a relatively high MW of 3600 outside the scope of the present invention, whereas the latter has a relatively low MW of 1650 in accordance within the scope of the present invention. Moreover, the weight percentage of the EO block was about 40% for the TETRONIC® 304 material.

Table 1 on page 12 of the originally filed application also reveals that PLURONIC® L31 polyether did not yield a stable solution with the superplasticizer – i.e., by the notation that the solution was "cloudy". Therefore, notwithstanding the fact that the MW of the PLURONIC® L31 polyether may be within the range as claimed herein, the amount of EO blocks is substantially less than the minimum amount claimed (i.e., 10 wt.% viz. 30 wt.%) and thereby results in an unstable (cloudy) solution.

GOPALKRISHNAN, et al
Serial No. 09/930,479
February 10, 2004

The evidence of record demonstrates that there is no equivalency nor predictability of achieving both lowered entrained air content and a stable solution when even chemically similar components are employed.

In view of the amendments and remarks presented herewith, applicants submit that the rejection advanced under 35 USC §102(e) must be withdrawn. Entry of the present amendment and allowance of this application are therefore requested.

Should any small matter remain outstanding the Examiner is encouraged to telephone the applicants' undersigned attorney so that the same may be resolved without the need of an additional written action and reply.

An early and favorable reply on the merits is awaited.

Respectfully submitted,

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